

REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Office Action mailed July 8, 2010. In view of the amendments above and the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Status of Claims

Claims 1-17 are pending in this application. Claims 1 and 11 are amended.

Interview Summary

Applicants appreciate the courtesy granted to Applicant's attorney, Michael A. Scaturro (Reg. No. 51,356), during a telephonic interview conducted on Thursday, August 19, 2010. During the informal telephonic interview, proposed amendments to Claims 1 and 11 were discussed to overcome the 112 rejection. Further discussion was conducted regarding the 102 rejection of independent claim 11. A general agreement was reached that to overcome the 102 rejection of claim 11, this claim would have to be amended to recite that the reference circuit outputs a constant reference current that does not change in response to the input data.

Allowable Subject Matter

Applicant wishes to thank the Examiner for indicating that Claims 1-10 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in the instant Office Action.

35 U.S.C. §112, second paragraph

Claims 11-17 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants understand the rejection to be based on the premise that the limitation "wherein the number of controllable driver circuits is at least one greater than the number required for providing data to all data conductors is indefinite, as the

number that is required for providing data is not defined. Applicants have amended Claim 11 in a manner which is believed to overcome the stated rejection.

Claim 1 was rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants understand the rejection to be based on the premise that there is insufficient antecedent basis for the limitation “at least one greater than the number required ...”, as the number that is required for providing data is not defined. Applicants have amended Claim 1 to recite in relevant part, “wherein the number of controllable driver circuits is at least one greater than the number of controllable driver circuits required for providing data to all data conductors.”

Claim Rejections under 35 USC 102

In the Office Action, Claims 11-15 and 15-17 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2004/0085270 (“Kimura”). Applicants respectfully traverse the rejections.

Claims 11-15 and 15-17 are allowable

The cited portions of Kimura do not anticipate claim 11, because the cited portions of Kimura fail to disclose every element of claim 11. For example, the cited portions of Kimura fail to disclose or suggest, “*simultaneously dynamically calibrating the remaining at least one further controllable driver circuit using a reference driver circuit that outputs a constant reference current that does not change in response to input data received from said plurality of controllable driver circuits*, as recited in claim 11.

Kimura discloses a signal-line drive circuit that operates in a different manner than described by the invention. As understood by Applicants, Kimura discloses a signal-line drive circuit that operates according to a current input method in which drain current is set to have the same value as that of the signal current set in the current source circuit. See Kimura, par. 17.

A key feature of the invention is the reduction in the spread of driver circuit outputs by calibration of the driver circuits using a reference driver circuit. The reference driver circuit comprises a constant reference current source. Each driver circuit includes a dedicated switching block which enables the particular driver circuit's output to be selectively connected to the constant reference current source or to the output of the display device. The calibration and driving operations for each of the driver circuits are interchanged during successive addressing periods.

In contrast to claim 11 recitation above, Kimura discloses that a video signal 109 (i.e., reference driver circuit 30, Iref) outputs a variable reference current that changes in response to the input data. The Office acknowledges this feature of Kimura at page 2 of the Office Action, "*video signal driver 109 which inherently changes based upon the video signal to be supplied to the driver circuits.*" Claim 11 has been amended to recite that the current source does not change in response to the input data. The reference driver circuit 30, Iref, of the invention outputs a constant reference current that does not change in response to the input data.

Further, Kimura discloses that the video signal 109 is connected to an **input** of the driver circuits, as illustrated in Figure 4. In contrast to Kimura, the constant reference driver circuit 30 of the invention is connected to an **output** of the driver circuits.

Further, Kimura does not disclose that the calibration and driving operations are interchanged during successive addressing periods. Instead, as stated above, Kimura discloses a signal-line drive circuit that operates according to a current input method in which drain current is set to have the same value as that of the signal current set in the current source circuit. See Kimura, par. 17. It is respectfully submitted that the current input method of Kimura does not operate by interchanging calibration and driving operations during successive addressing periods. Instead, the current input method of Kimura operates by setting a drain current of the TFT to have the same current value as that of the signal current I_{data} set in the current source. In this manner, light is emitted with a luminance corresponding to the drain current. In contrast to Kimura, the invention discloses a reference driver circuit

comprising a reference current source that dynamically calibrates driver circuits so as to reduce the spread in the output of current source circuits. As described in Applicant's specification at pages 9-10, and illustrated in Fig. 3, during a first time period, a first current source 32 (I_{cal}), is adjusted to draw exactly the same current (I_{ref}) as the constant reference current source 30. During this first time period, while current source 32 is being dynamically calibrated by means of the adjustment, the other current source 34, delivers the output current (I_{out}) to activate the pixel in the single column. Thereafter, during a second time period, the two current sources are interchanged, and while current source 34 is being dynamically calibrated, in the manner described above, current source 32 delivers the output current. Claim 11 recites in relevant part, *wherein the calibration and driving operations for each of said plurality of controllable driver circuits are interchanged during successive addressing periods.*" Hence, claim 1 is allowable.

Claims 12-13 and 15-17 depend from claim 11, which Applicant has shown to be allowable. Hence the cited portions of Kimura fail to disclose or suggest at least one element of each of claims 12-13 and 15-17. Accordingly, claims 12-13 and 15-17 are also allowable, at least by virtue of their dependence from claim 11.

Claim Rejections under 35 USC 103

The Office has rejected claim 14 under 35 U.S.C. §103(a), as being unpatentable over Kimura. Applicant respectfully traverses the rejections.

Claim 14 is Allowable

As explained above, Kimura does not disclose or suggest each and every element of claim 11, from which claim 14 depends. Specifically, the cited portions of Kimura fail to disclose or suggest

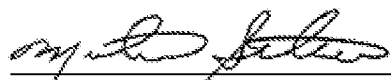
Therefore, Kimura does not disclose each and every element of claim 11, from which claim 14 depends. Hence, claim 14 is allowable.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-17 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,



Michael A. Scaturro
Reg. No. 51,356
Attorney for Applicant

Mailing Address:
Intellectual Property Counsel
Philips Electronics North America Corp.
P.O. Box 3001
345 Scarborough Road
Briarcliff Manor, New York 10510-8001